

Shibboleth: Exploring Cultural Boundaries in Speech

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ABSTRACT

Shibboleth is a multimedia artwork that explores the cultural barriers created and enforced by accent and pronunciation differences. It is founded on the idea of biblical origin of a *shibboleth* — a word or phrase that distinguishes one cultural group from another. The artwork consists of a computer interface through which users are able to see and hear rhythmic audio-visual compositions of shibboleths created from previously recorded data and relevant sounds and imagery. Users can also use the interface to listen to examples of previously recorded shibboleths, as well as to add their own to a growing, geographically-indexed database.

Categories and Subject Descriptors

J.5 [Arts and Humanities]: Fine arts, Linguistics; H.5.2 [Information Interfaces and Presentation]: Hypertext/Hypermedia—*Navigation*; H.5.1 [Information Interfaces and Presentation]: Multimedia Information Systems—*Audio input/output*

General Terms

Languages

Keywords

Shibboleth, accent, cultural boundaries, installation.

1. INTRODUCTION

And the Gileadites seized the passages of the Jordan before the Ephraimites; and it was so, that when those Ephraimites who had escaped said, "Let me go over," that the men of Gilead said unto him, "Art thou an Ephraimite?" If he said, "Nay," then said they unto him, "Say now 'Shibboleth.'" And he said "Sibboleth," for he could not frame to pronounce it right. Then they took him and slew him at the passages of the Jordan;

and there fell at that time of the Ephraimites forty and two thousand. (Judges 12:5-6) [3]

Shibboleth has come in English to mean a test phrase that distinguishes one group from another. In recent years its meaning has expanded, but it still retains the meaning of a speech peculiarity that betrays ones origins. Accounts of shibboleths recur, often bloodily, through history, for instance the use of "Scheveningen" during the Second World War to distinguish Germans from Dutch, to the use of the Spanish word "perejil" to distinguish Haitians (who pronounced the 'r' differently) from Dominicans in Dominica [9, 8] particularly during massacres in the 1930s. The pronunciation of "ask" is a sensitive cultural divisor in the contemporary United States.

The shibboleth is a demonstration of how deeply ingrained our speech patterns are and how the formation of phone boundaries, while culture-dependent, is learned and deep rooted at an early age. Thus two people may perceive two sounds as being the same phone or different phones according to their linguistic background, and may have great difficulty reproducing sounds of a different language that do not occur in their own. Shibboleths stand as a boundary to the ideals of cultural integration, a linguistic demarcation of "the other" which may be impossible to hide. Despite the increasing linguistic homogeneity through exposure to mass culture, accent differences continue to evolve, as documented in the Northern cities vowel shift [5].

A shibboleth is a focus word that provides a diagnostic test for differences that manifest themselves in a wide range of words and speech patterns when people speak with different accents. The phrase "Bother father caught hot coffee in the car park" [1] is used by linguists to distinguish a wide variety of English accents from different regions and countries. As Shaw put it, "It is impossible for an Englishman to open his mouth without making some other Englishman hate or despise him." [7] Even when our vowel phone boundaries are shared across cultures, and when the shibboleth does not demand sounds we are incapable of making, still the deep-rooted speech patterns betray us however closely we control our speech. For instance "castle" with a long or short "a" distinguish southern from northern British English.

Shibboleths thus form a simple biometric method of detecting that a person belongs to a particular group, allowing someone to pigeonhole a person they have never met before. While this is a natural and convenient way of understanding something about a stranger, it also becomes a way of stereotyping them and, in its more literal uses, discriminating against them.

In this piece I wish to explore the idea of shibboleths, both explicit and unconscious and investigate how they are and have been used, raising users’ awareness of the speech traits that constantly give them away. I wish to take shibboleths beyond the narrow discriminatory confines in which they have been applied, and, taking advantage of the cultural diversity at the ACM MM conference, to stretch shibboleths across boundaries they were never meant to traverse — for instance getting people who are neither Ephraimites nor Gileadites to say “Shibboleth” and non-native speakers of English to say the British/American shibboleth of “tomato”.

The project has a component of oral history with the aim of collecting an archive of shibboleths and explanations from people’s own cultures and experiences. Currently most data has been collected from English speakers both native and non-native.

2. DATA ARCHIVE

Data for the piece is captured by three methods. Initial data was acquired by video-taping interviews, and by a web-based data capture system to obtain audio data from people world-wide. Finally, users exploring the installation can record their own pronunciations of known shibboleths, or add their shibboleths from their own experience of folklore. Along with the audio and video data, cultural data is also recorded, such as where the person grew up, or has lived for a significant (pronunciation-affecting) time.

Recorded signals are segmented by silence detection, re-sampled to a standard frequency and stored in the Shibboleth database. Current Shibboleths include: *castle*, *idea*, *visit*, *lalapaloosa*, *h*, *half*, *tomato*, *been*, *thither*, *shibboleth*, *perjil*, *Scheveningen*¹.

Ultimately it is intended that the data, and exploration interface, should be visible on the internet with open access to the data, in a similar manner to such general linguistic databases as the International Dialects of English Archive [4].

3. THE INSTALLATION

The installation is conceived as an interactive exploration of shibboleths. The work runs on a computer system and is implemented in C++, chosen because of its flexibility, speed and access to mixer, microphone and camera, as well as existing libraries.

The system consists of a series of animated graphical panes navigated by mouse. One of these allows the user to record, in audio and video, their own pronunciation of a shibboleth chosen from a selection screen, or to add a shibboleth from their own experience to the database. Users are also prompted to indicate their cultural and linguistic origins on a map, and the audio database is spatially indexed with this information.

Users can then explore the database of prior recordings by selecting shibboleths from a selection pane, and choosing speakers from the geographic index via a map interface (Figure 1). Users can play two or more previously recorded samples to hear the differences in pronunciation, with the audio mixed in real time under the control of the user. Visual representations of the sounds are also displayed, including

¹More, and an explanation of these can be found at <http://www.andrewsenior.com/shibboleth/list.html>

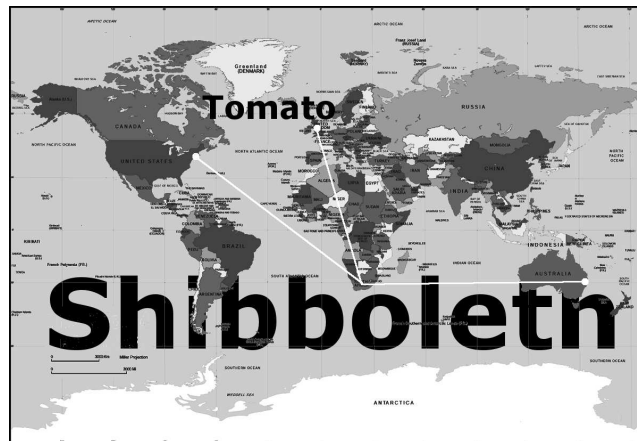


Figure 1: The geographical interface showing blending of a shibboleth between three recordings based on the speakers’ linguistic origins

spectrograms and formant tracks calculated using routines from the EMU project [2].

Each user interaction pane is controlled by a script written in the Fibonacci sequencing tool [6]. This sequences images, text, animations, sounds and buttons for user interaction. A real-time sound loop written in C++ plays and mixes sounds in real time. Pre-recorded video of shibboleths, combined with other sound and image sources, is also used to create audio-visual compositions for each word using the Fibonacci sequencing tool. These compositions can be played from within the Shibboleth user interface, and when there is no user interaction the system automatically plays a sequence of these compositions.

4. CONCLUSIONS

Shibboleth is an interactive multimedia installation that explores the way that accents and the pronunciation of distinctive words convey our cultural identity. Shibboleths are presented through compositions of sound and video made from recordings of diverse participants. Through a custom graphical user interface and sequencing system, users are able to browse shibboleths and examples of their pronunciation, as well as record their own pronunciations and personal stories of shibboleths.

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